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Barriers And Opportunities For Achieving Universal Health Coverage In Rural Bangladesh: A Cross-Sectional Study

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Abstract
Background*: UHC is a dominant agenda in Sustainable Development Goals (SDGs) and in post- Millennium Development Goals (MDGs) of global health (HEU, MoHFW, 2015). As national income has increased considerably around the countries in the world along with the burden of non-communicable diseases, demand has also increased for quality of care and affordable health services. Many countries today are actively pursuing to achieve Universal Health Coverage. The efforts have stirred interest and guidance from international organizations, such as the World Health Organization and the World Bank, and led to new platforms for developing countries to learn from each other*
Objective*: To assess the accessibility of the rural people of Bangladesh to Universal Health Coverage*
Methodology*: This descriptive cross-sectional study was conducted from 26th December to 28th December 2023. Target population of this study were rural people of 15-60 years old different villages from districts of Comilla, Chandpur, Gazipur and Mymensingh. And total 50 people were enrolled by conventional sampling.*
Result*: About 32% of our respondents had monthly family income in the range of 20,000-30,000/= BDT. And they need to visit Health Care Facilities on a weekly basis in 30 (60%) cases followed by a monthly visit in 13 (26%) cases.*
On analyzing the accessibility of rural people to public sector health care services it was revealed that on an average most of the respondents received services from Public Sector. Of them 84% received services for Non-Communicable Diseases, 96% for different Communicable Diseases (Dengue, TB, Covid-19), 50% for Family planning causes, 48% for MCH, 80% received coverage under EPI, 20% for IMCI, 34% for ANC & another 28% for EOC Services. However, people also expressed their dissatisfaction regarding Government Hospitals by conveying causes of disinterest towards public health care services. Of which 96% suggests Unhygienic & overcrowded environment, 62% suggests deficient manpower, 72% suggest absence of effective infrastructure, 86% suggests lack of adequate diagnostic machines to be responsible for them to shift to Private Sectors for health care. But it was found that excessive cost of treatment is the main cause of not being able to seek private care in 98% cases. Besides this substandard treatment (36%), Distance (26%), Lack of properly trained health professionals (18%), Self-medication (20%) are other important causes. Finally, information was collected on if the respondents were under any financial schemes. And it showed majority 72% respondents had out of pocket expenditure for health care that accounted majority of their total health expenditure.
Conclusion*: From this study it clearly becomes evident that to counter the demand side barrier to UHC, proper counselling should be provided at household level and each household member should be counselled on an individual basis. Consumers should be motivated to go to doctors instead of local pharmacy or quacks for seeking care related to mother and child issues. Also a huge barrier for patients seeking healthcare services in the rural*

areas of Bangladesh is the remote areas of their residence and the lack of proper or any transportation to carry them to the facilities.
It may be instructive for Bangladesh to examine the experiences of other countries who have constructed highly fragmented health systems, as the country is considering introducing social health insurance as the financing vehicle for expanding coverage, which could result in preferential coverage for formal sector workers and exclusion of households in the informal sector, which is not desirable for a comprehensible health coverage package.

Keywords: *Universal Health Coverage (UHC), Rural Healthcare, Healthcare Accessibility, Public vs. Private Healthcare, Out-of-Pocket Expenditure, Health Service Utilization, Health Equity, Primary Health Care, Health Financing, Bangladesh Health System*

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I. Introduction

Universal Health Coverage (UHC) implies that all people have access to quality health services they need, without financial hardship (Sheikhet al., 2022). UHC received a fresh momentum with the adoption of Sustainable Development Goals (SDG), the eighth target of the third goal of which states, "Achieve UHC, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all" (Adams et al., 2013). The health system of Bangladesh is experiencing a double burden of diseases, low service coverage, and a lack of effective financial risk protection mechanism. Bangladesh has a pluralistic healthcare system, which is highly unregulated and consists mainly of four key actors: government, for-profit private sector, not-for-profit private sector (mainly the non- governmental organizations [NGOs]), and the international development organizations (T. Rahman et al., 2022). Public healthcare is steered by the Ministry of Health and Family Welfare, through its different Directorate Generals: Health Services, Family Planning, Drug Administration, Nursing and Midwifery, Health Economics Unit, etc.(Huda et al., 2016) Private healthcare encompasses for-profit private, not-for-profit private (mainly the NGOs), and informal providers (village doctors and other vast array of different unqualified providers). The public healthcare services are organised along four levels: community level healthcare (provided by the domiciliary health providers and community clinics), primary level healthcare (provided in Rural Health Centres, Union Subcenters, Union Family Welfare Centres, and Upazila Health Complexes), secondary level healthcare (provided in District Hospitals, General Hospitals, Chest Disease Clinics, Tuberculosis Clinics, and Leprosy Hospitals), and tertiary level healthcare (provided in Post Graduate Medical Institutes, Specialised Healthcare Centres, Medical College Hospitals, and Infectious Disease Hospitals). The private sector also has health facilities ranging from individual doctors' offices to high-end tertiary level international standard hospitals (Huda et al., 2016). Public healthcare is highly subsidized by the government, with nominal payments required from patients, especially for the outpatient care. Health insurance, both national and private, is practically nonexistent. Health financing is underfunded; only 2.64 percent of gross domestic product (GDP) is spent on health, which is the lowest in the south Asia region (Sarker et al., 2022). Health financial coverage is so sparse that nine percent households face catastrophic health payment, 5.6 percent face impoverishment, and seven percent face distress financing (borrowing or selling household assets to finance healthcare costs) (Joarder et al., 2019). Equity in health is one of the central pillars for promoting UHC (Fahim et al., 2019). According to the International Society for Equity in Health, "Equity is the absence of systematic and potentially remediable differences in one or more aspects of health across populations or population groups defined socially, economically, demographically, or geographically" (Assembly, 2011). Unfortunately, out of pocket (OOP) contributions to health expenditure, one of the most inequitable sources of healthcare financing, in Bangladesh, are among the highest in the world with 67% (Ahmed et al., 2019). Quality of care, another important dimension of UHC, is highly questionable in the public sector (Khan, Ahmed, MacLennan, et al., 2017). This encourages people to resort to private sector healthcare, which is more expensive. Health expenditure in private health facilities is exclusively from OOP payments (93%) (Mazingi et al., 2023). The review of Bangladesh's Demographic and Health Sur- vey 2014 reveals inequity in most of the health indicators in terms of economic status, level of education, gender, location (urban vs. rural), and geography (divisions) (T. Rahman et al., 2022). Among fertility and family planning indicators, for example, marital age of first marriage is only 15.3 years in the lowest income quintile versus 17.6 years in the highest (national average 16.1 years). Mean ideal number of children is 2.4 among women with no education versus 2.0 among those with secondary or higher level of education (national average 2.2). Contraceptive prevalence rate (any method) is only 47.8% in Sylhet Division versus 69.8% in Rangpur (national average 62.4%). Percentage of unmet needs for family planning is 17.7 in the Sylhet Division versus 6.7 in Rangpur (national average 12.0). Currently available evidences from Bangladesh on UHC mostly include quantitative household surveys on out of pocket expenditure (Sarker et al., 2022), financial risk protection , and equity analysis (Islam et al., 2017). The policy environment around UHC issues has been analysed by very few studies, which includes an assessment of a set of proposed indicators related to UHC and generic policy papers

without description of methodology (Assembly, 2011). Therefore, in this study, the aim was to understand the existing health policy environment and current activities to further the progress towards UHC and the barriers or challenges faced in these endeavours.

II. Methods:

This observational cross-sectional study was conducted from December 26 to 28, 2023, at Upazila Health Complexes in Muktagacha (Mymensingh), Joydebpur (Gazipur), Meghna (Comilla), and Chandpur Sadar (Chandpur). The study involved 50 purposively selected rural individuals aged 15–60 years, including both villagers and patients attending outpatient departments. Data were collected through face-to-face interviews using a structured, pre-designed questionnaire. Incomplete or inconsistent responses were excluded during data cleaning. Qualitative data were coded numerically to allow statistical analysis using SPSS version 26. Continuous variables were summarized as mean ± standard of respoviation, while categorical variables were expressed as frequencies and percentages. Ethical clearance was ensured through verbal informed consent, and the study was conducted under the supervision of the 85th Special Foundation Training Course management team at BIAM Foundation, Dhaka

III. Results:

Table 1: Variables related to Socio economic character of Respondents (N=50)

Attribute	Mean ± SD / Frequency (%)
Age (years)	37.68 ± 5.34
Monthly Family Income	22,000 ± 12,500.50 BDT
Gender	Male: 48%, Female: 52%
Education	No formal education: 18%
	Primary: 28%, Secondary: 40%
	HSC: 10%, Graduate: 4%
Occupation	Housewife: 32%, Business: 28%
	Service: 18%, Student: 10%, Others: 12%

This table presents the socio-economic characteristics of the respondents, including their age, monthly family income, gender, education, and occupation. The mean and standard deviation (SD) are provided for continuous variables like age (37.68 ± 5.34 years) and monthly family income (22,000 ± 12,500.50 BDT). The table also includes the frequency and percentage of respondents for categorical variables like gender, education, and occupation. The gender distribution is nearly equal, with 48% male and 52% female respondents. Regarding education, the majority of respondents had at least secondary education, with 28% having primary, 40% secondary, and only 4% being graduates. In terms of occupation, housewives constituted 32% of the sample, with significant representation from business (28%), service (18%), students (10%), and other occupations (12%)

Table 2: Frequency of Health Facility Utilization among Respondents (N=50)

Indicator	Frequency	Response Rate (%)
Weekly Visits to Health Facilities	30	60%
Monthly Visits	13	26%
Major Injury in Last 3 Months	18	36%

This table highlights the frequency with which the respondents visited health facilities. The data is divided into three main categories: weekly visits, monthly visits, and major injuries in the last three months. 60% of respondents reported visiting health facilities weekly, while 26% visited on a monthly basis. A significant portion, 36%, reported having suffered a major injury in the last three months.

Table 3: Access to Public Sector Health Services available at Health Care Centers

Service Type	Frequency	Utilization Rate (%)
Communicable Disease Treatment	48	96%
Non-Communicable Diseases	42	84%
Family Planning	25	50%
Maternal and Child Health (MCH)	24	48%
Expanded Programme on Immunization (EPI)	40	80%
IMCI	10	20%
Antenatal Care (ANC)	17	34%
Emergency Obstetric Care (EOC)	14	28%
Household Health Worker Visits	26	52%
Emergency Services	47	94%
Laboratory Diagnostics	34	68%
Essential Medicines Received	49	98%

This table lists the types of public sector health services available at health care centers, along with the frequency of utilization and the percentage of respondents who utilized each service. The most accessed services were for communicable disease treatment (96%), followed by emergency services (94%), and essential medicines (98%). Other highly utilized services include non-communicable disease treatment (84%) and laboratory diagnostics (68%).Family planning and maternal and child health services were accessed by 50% and 48% of respondents, respectively, while services like IMCI (20%) and Emergency Obstetric Care (28%) had lower utilization.

Table 4: Barriers to Access and Health Financing faced by Respondents (N=50)

Barrier/Financing Type	Frequency	Percentage (%)
Unhygienic & Overcrowded Public Hospitals	48	96%
Inadequate Diagnostic Equipment	43	86%
Deficient Manpower	31	62%
Poor Infrastructure	36	72%
Could Not Access Private Care	35	70%
Reason – High Cost of Private Care	49	98%
Other Barriers (Distance, Self-Medication, etc.)	18	36%
Out-of-Pocket Expenditure (OOP)	36	72%

Among the barriers to access and health financing that the respondents faced when seeking healthcare the most significant barrier was unhygienic and overcrowded public hospitals, which 96% of respondents identified as a concern. The high cost of private care was another major barrier, with 98% of respondents mentioning it, and 70% of respondents were unable to access private care due to these costs. Other significant barriers included inadequate diagnostic equipment (86%), deficient manpower (62%), and poor infrastructure (72%). Additionally, 72% of respondents reported out-of-pocket expenditure (OOP) as a major issue.

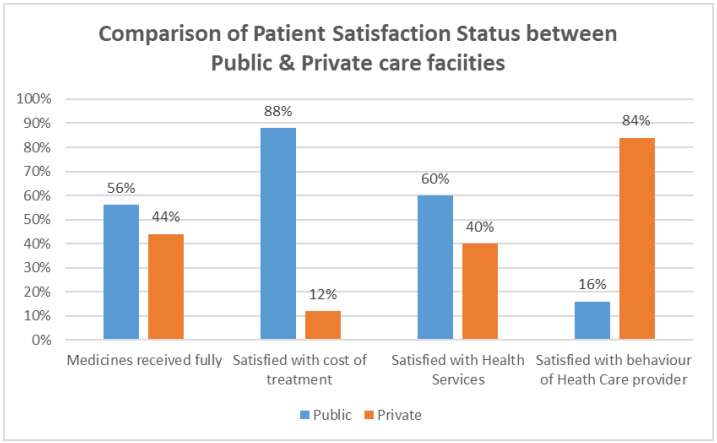

Figure 1: Comparison of Patient Satisfaction Status between Public & Private care facilities

Figure here provides a comparison of patient satisfaction between public and private healthcare facilities. This figure visually illustrates that patients reported higher satisfaction with private healthcare facilities compared to public ones, with a noticeable difference in overall satisfaction scores. The data suggests that while public healthcare services are widely accessed, patient satisfaction tends to be lower due to factors such as overcrowding and inadequate facilities

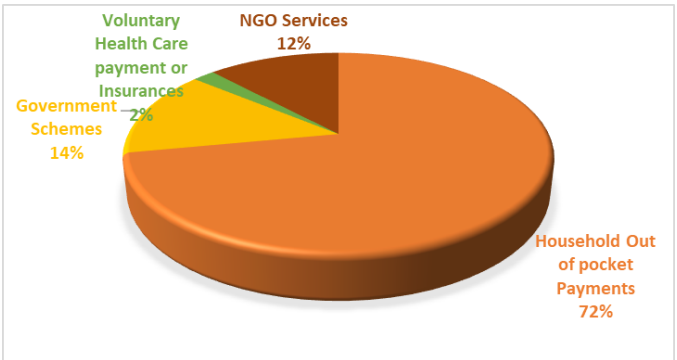

Figure 2 : Assessment of Total Health Expenditure by Source of Financing

This figure shows an assessment of total health expenditure, categorized by the source of financing where a substantial portion of health expenditure (72%) is covered by out-of-pocket payments and private insurance, with the public sector contributing a smaller share (14%) . This highlights the financial burden on individuals, especially those without sufficient insurance coverage, leading to significant out-of-pocket costs for healthcare services.

IV. Discussion

Bangladesh has demonstrated considerable progress in public health outcomes over the past few decades, notably through reductions in maternal and child mortality, expanded immunization coverage, and enhanced life expectancy. These gains, further illustrated by the successful handling of the COVID-19 pandemic and related vaccination drives, affirm the government's commitment to achieving Universal Health Coverage (UHC) by 2032(Assembly, 2011) However, as our study shows, challenges to equitable health access—particularly in rural settings—remain deeply entrenched.

This study assessed rural populations across four districts and found that the average monthly household income was BDT 22,000 ± 12,500.50, with the majority of participants aged 30–45 years. These findings differ slightly from earlier work by M. S. Rahman et al. (2019) which involved a younger cohort (mean age 24.18 years). Our deliberate selection of a 15–60 age bracket allowed for capturing a broader perspective on healthcare-seeking behavior.

In terms of demographics, the majority of respondents were female (52%) and Muslim (88%), with 28% having primary-level education and 18% reporting no formal education. These trends echo findings by Joarder (2019), who emphasized limited educational attainment as a barrier to healthcare access in rural areas (Joarder et al., 2019) Additionally, income distribution revealed that 32% of respondents belonged to the BDT 20,000–30,000 income bracket, underscoring the dominance of the lower-middle-income group in rural Bangladesh.

Healthcare demand was found to be substantial. A significant number (60%) reported visiting healthcare facilities weekly, and 82% had experienced comorbidities in their household over the previous three months. Notably, 36% of respondents reported experiencing major trauma requiring medical attention. These figures suggest a high health burden among rural populations and highlight the continuous demand for healthcare services.

Public sector facilities appear to play a pivotal role in service delivery. A large proportion of respondents had accessed services for communicable (96%) and non-communicable diseases (84%), along with family planning (50%), maternal and child health (48%), and immunization services (80%). However, coverage for services like IMCI (20%), ANC (34%), and EOC (28%) remained suboptimal. These findings are broadly in line with those from who reported similar service utilization patterns, with high access to ANC and immunization but gaps in comprehensive care (Khan, Ahmed, & Evans, 2017)

Despite the outreach of public services, user dissatisfaction remains widespread. Respondents cited unhygienic environments (96%), inadequate diagnostic facilities (86%), and staff shortages (62%) as primary barriers. These deficiencies drive a preference for private healthcare, albeit only 30% could access such facilities, mostly due to prohibitive costs (98%). Ahmed et al. (2019) similarly documented cost as the dominant barrier preventing rural Indians from seeking private maternity care (Ahmed et al., 2019)

Our data further shows that 72% of respondents relied on out-of-pocket (OOP) expenditure for healthcare, aligning with World Bank findings indicating OOP as the dominant health financing mechanism in Bangladesh. This reality not only challenges financial protection, a core tenet of UHC, but also increases the risk of catastrophic health expenditure, particularly among low-income households.

Patient satisfaction also showed stark disparities between public and private sectors. While private facilities were preferred for their efficiency and behavior of health professionals, their affordability remains a key limitation. This dualism reflects the structural inequity within Bangladesh's health system, which is fragmented, under-regulated, and largely underfunded (with only 2.64% of GDP allocated to health) (Iqbal, 2019)

Collectively, these findings highlight several entrenched barriers to UHC: geographical inaccessibility, infrastructural gaps, workforce shortages, and financial constraints. More importantly, they point to the need for systemic reforms—not just in service delivery but also in financing mechanisms such as risk pooling and prepayment schemes (Khan, Ahmed, MacLennan, et al., 2017). Learning from countries with successful social health insurance models could guide Bangladesh in crafting inclusive and sustainable UHC strategies.

V. Conclusion

This study provides valuable insights into the current status of rural people's access to Universal Health Coverage (UHC) in Bangladesh. While public sector healthcare facilities serve as the primary source of services for the rural population, numerous systemic barriers—such as poor infrastructure, inadequate human resources, limited diagnostic capabilities, and dissatisfaction with service quality—undermine effective utilization. Furthermore, the heavy reliance on out-of-pocket expenditure poses a significant threat to financial protection, a core pillar of UHC.

The limited accessibility of private healthcare due to high costs, combined with persistent public sector inadequacies, reflects deep-rooted inequities in the healthcare system. Without urgent reforms in health financing, infrastructure development, and human resource management, progress toward achieving UHC goals by 2030 will remain slow and uneven.

Moving forward, Bangladesh must adopt a comprehensive, equity-focused approach to healthcare reform. This includes investing in primary care, expanding social health insurance, strengthening health governance, and ensuring that rural populations are not left behind. Drawing lessons from other countries that have successfully expanded coverage can support the development of a more inclusive, sustainable, and responsive health system.

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